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Profile

a guide to military careers

December 1988

Next month's issue is PROFILE's annual "Basic Facts Edition," a ready reference guide to various aspects of military service. The February issue features Army multiple launch rocket system operators, Navy fire control technicians, Marine Corps field artillerymen, Coast Guard machinery technicians, Army satellite communications technicians and Air Force satellite operations officers.

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a guide to military careers Vol. 32 No. 2 December 1988

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Front: Blending into the environment, a recon Marine is poised to attack during a patrolling mission. (Photo by Gunnery Sgt. John Black)

Back: The nuclear-powered submarine USS Glenard P. Lipscomb glides swiftly through the waves. (Official U.S. Navy photo)

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Reconnaissance Marines answer the challenge of special operations missions through teamwork, physical conditioning and tireless training.

Swift, Silent, Deadly

Story and photos by Spc. Paul White

They operate behind enemy lines, covertly securing information about unfriendly forces. If necessary, they can engage and destroy that enemy. Like their motto, they are "swift, silent and deadly." They are reconnaissance Marines.

The Army has its Green Berets, the Navy has its SEALS, and in the Marine Corps, special warfare operations are handled by reconnaissance Marines. Thanks to rigorous physical conditioning and extensive training, recon Marines become proficient in numerous combat-related skills. They descend from helicopters via parachutes or ropes. Over water, they leap from helos at altitudes of up to 50 feet, a procedure known as helocasting. Using a similar method called "rubber ducking," they jump into the water with rubber boats. They may emerge from Navy submarines and ships, and must swim ashore.

On land, their patrolling missions often last hours. Since remaining undetected is essential, recon Marines meticulously camouflage their gear, uniforms and faces. In an artic region, they might patrol on skis or snowshoes. In a jungle environment they may have to battle wild animals and dense vegetation. Because of their specialized skills, they often operate independently of other Marine units, their only link being communication via field radio.

At any given time, the job can call for the skills of a pathfinder, a diver, a sniper or an airborne-qualified infantryman. "It's probably the most physically demanding job in the Corps," said Lance Cpl. Darren J. Smith, "but I wouldn't want to do anything else."

Teamwork. The word comes up often when a recon Marine talks about his job. They develop a sense of unity high even for the Marine Corps, a service which prides itself on its espirt de corps. Without teamwork, missions break down. Lives are lost. "Macho men" and "one-man-gangs" aren't tolerated. The Lone Ranger wouldn't have made it in this outfit.

"It's not a job for everyone," said 1st Lt. David K. Pigman, Smith's platoon commander in the 2nd Recon Battalion, Marine Corps Base Camp Lejeune, N.C., who added, "A lot of people are scared off by our reputation."

Smith, however, rejects the notion that recon is for individuals a few quarts low on common sense. "We're not crazed psychos," he emphasized. "People see some of the things we do and think we must be crazy," added Lance Cpl. Patrick C. Lauder. "What they don't see are the hours and hours of preparation we undergo. Our work can be dangerous, but we're always well prepared."

According to Pigman, high levels of motivation, self-discipline and maturity are needed to be a recon Marine. "In enemy territory we want to leave no trace of having been there," he said. "Too much noise, an indiscriminate use of light, staying on the radio handset too long -- those are the kinds of things that can get us discovered. We can't af-

Above: Helocasting is one of the methods recon Marines use to get from the air to the ground. Right: Camouflage plays an important role in reconnaissance.

The few and the proud among the few and the proud.

ford errors induced by immaturity or a lack of self-discipline."

Recon Marines train continuously. They learn from other services. They learn from Marine schools, and also from each other. Perfecting their numerous skills is the goal. It begins on day one of recon training, and it never ends. "No matter how much experience we have," Pigman said, "we always have more to learn."

Recon candidates receive an introduction to the job during the mandatory combat skills training for infantry soldiers after basic training. "It's very difficult to get into recon from a job other than infantry," Pigman said.

A screening session follows, including aptitude, physical fitness and swimming tests. "The swimming requirements usually cause the most problems," Pigman noted. "An applicant must be an excellent swimmer to pass."

Those who meet the screening requirements attend the basic recon skills course at Fort Story, Va. The eight-week school features instruction in land navigation, patrolling, communications, weapons, scout swimming and physical fitness. During the winter months, the amphibious portions of the course are conducted at Key West, Fla.

Many recon students are surprised at the volume of classroom work the course entails, according to one of the school's instructors. "We try to provide a working knowledge of recon doctrine, concepts and techniques," he said. "In addition to all the other demands, a person must also be smart to make it through the course."

Once assigned to a recon unit, the Marines can receive additional training at schools such as Army Ranger School and Scout Sniper School. Other specialized training includes scuba and pathfinding.

Successful reconnaissance missions are the dividends of the continuous training and preparation. A by-product of their readiness is the pride evidenced in how they view themselves, their occupation and their status within their service. "We're the elite unit in an elite service," Pigman said.

Coast Guard Aviations

Aircraft Body Doctors

Story and photos
By PA1 Rick Woods

The solid, sharp "WHUMP!" of a bird colliding with the leading edge of an airborne plane's wing alerts the crew that some repairs back on the ground will be necessary. That job will bring a whole list of skills to bear when the aviation structural mechanic sets out to fix the "bird strike."

The Coast Guard Aviation Structural Mechanic (AM) has something to do with fixing just about any part of all Coast Guard aircraft. "The AM is a Jack-of-all-trades," Senior Chief Aviation Structural Mechanic Bruce Cash said. "We work on or repair just about any system in a Coast Guard aircraft once you take away the engines and remove the electronics," he said. "We work on the aircraft structure, hydraulics, landing gear, flight controls and tires." Cash is the acting chief of the Aviation Structural Mechanic (AM) School, Coast Guard Aviation Training Center, Elizabeth City, N.C.

Students at the 18 1/2-week school first study the service manuals for aircraft and how to apply the technical specifications they contain. They are also taught to use basic hand tools.

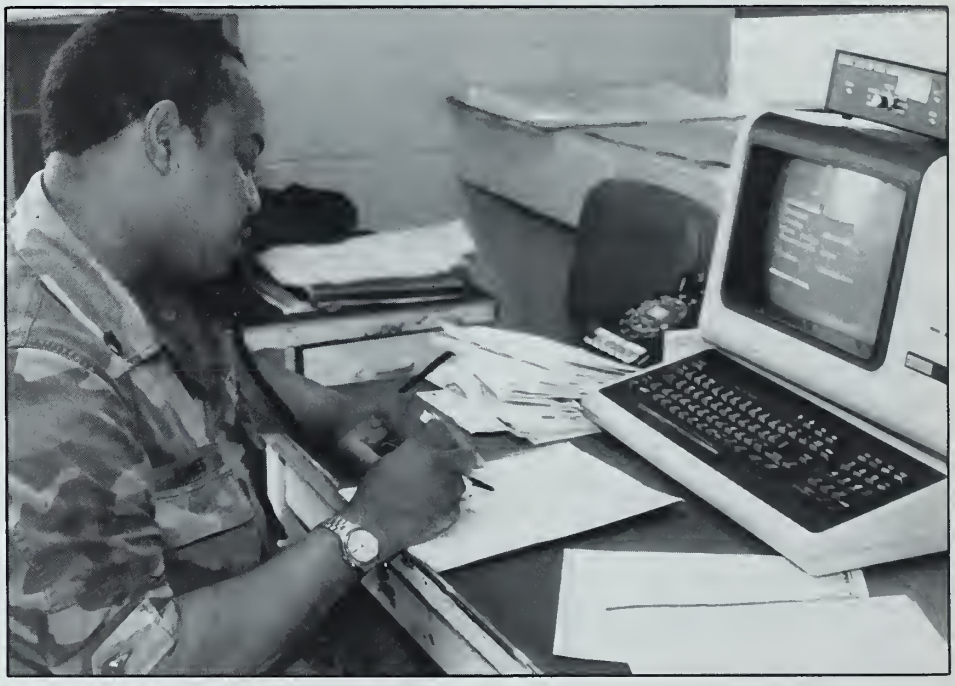
Cash said, "The hardest part for them to learn is probably in the shop actually doing the work. We teach them to do six to eight simulated aircraft repairs that range from building a simple metal electrical junction box to building and repairing aircraft structural parts. Another major section of the school is a very thorough background in aviation hydraulic systems teardown and repair. They also learn more specific things like gas welding, painting and fiberglass repair."

Cash's plane once smacked head-on into a seagull at 200mph, crushing the leading edge, snapping flight control cables, shorting electrical heating circuits that keep the wing ice-free, puncturing the fuel tanks and bending the internal frame of the wing itself.

Repairs took sheet metal cutting, bending and finishing, electrical and hydraulic system rebuilding, fuel system sealing, and structural welding. Cash worked on all of it.

First Class Aviation Structural Mechanic Edward Fleming checks the flight control hydraulic system components at the root of a Coast Guard C-130 main wing.

As a company mail clerk, it's Sgt. Maurice B. Maxwell's job to get the mail out swiftly.



Staff Sgt. Ronald Jones at work..."sometimes it's a challenge to get the mail to the proper person."

Mail Call

Story and photos
by SFC Karen Polston

He was lonely. He had been in Germany for three weeks and he was trying to get used to his new surroundings. He liked being in the Army and his new job was great, but he still felt homesick at times.

That afternoon, he went to his post office box and found his first letter. It was from his girlfriend back in Tennessee. It really helped.

Army postal clerks know that a letter from home can make all the difference for a soldier who's a long way from loved ones. They make sure those important cards and letters get to the right soldier without delay.

"People love to get mail," said Sgt. Maurice B. Maxwell, a company mail clerk at Fort Eustis, Va. "I ensure the people assigned to my company get their mail swiftly. I also redirect the mail that's been sent to people who have left."

According to Staff Sgt. Ronald Jones, noncommissioned officer in charge of the Fort Eustis military postal clerks, "Redirecting the mail is a major part of our job. The clerks who work with the postal locator section have their work cut out for them since we have a steady stream of soldiers coming into and leaving the area for training. Sometimes it's a challenge to get the mail to the proper person.

"When a soldier leaves a post, they fill out a postal locator card with their old and new addresses. This information is entered into a computer. When we receive mail that needs to be redirected, we look up the soldier's name on the computer and write the new address on the envelope," Jones said.

"If we have absolutely no record of the person, we return it to the sender or send it to the dead letter office. Fortunately, we don't have to resort to that solution very often."

In stateside assignments, postal clerks may work in unit mail rooms, in mail and distribution centers as well as the postal locators and directory services. "In the states, we don't sell stamps or money orders since there are U.S. post offices," Maxwell said. "However, overseas, military postal clerks handle everything connected with the post office, including driving the mail trucks, sorting the mail, selling stamps and money orders and providing all the other postal services."

Postal clerks begin their Army careers as administration specialists, because there isn't a separate career field for postal clerks.

"Soldiers who are interested in becoming postal clerks can perform 90 days of on-the-job training and qualify for the job, or they can attend a six-week course at Fort Benjamin Harrison, Ind.," Jones explained. "During the course, students learn how to issue stamps and run an overseas post office. They also learn the proper procedures to accept and control accountable mail such as registered, certified and insured letters and parcels.

"Once they're assigned to a mail room, they receive more training and undergo routine inspections to ensure they get the mail out as they should," he said.

Maxwell had just received his fourth certificate of achievement for a recent inspection where no errors were found in his mail room. "The mail keeps me busy, but I do the best job I can.

"Getting mail is a great morale factor for the soldiers," Maxwell concluded. "Everyone loves to get mail, especially when they're a long way from home. That is, unless it's a bill!" ⬠

Jones sizes up a stack of letters.

Satellite Watchers

Story and photo by SSgt. Linda Mitchell

"Since Sept. 1, 1982, when the Air Force Space Command was established, more and more space-related career fields have opened up to high school graduates," said Air Force Tech. Sgt. Mike Millstone. "The best thing about it is that the opportunities expand as the command expands." In September 1985, the command became a component of the then-newly-formed U.S. Space Command, which now includes the U.S. Army and U.S. Navy Space Commands.

Six years ago, people in Millstone's career field--space systems operations specialist--were trained to both operate and maintain the equipment they used to monitor satellites in space. Now the field has divided, and Millstone concentrates his efforts on operating the computers and ground equipment, while others maintain it.

The space systems operations specialist is assigned to the 2nd Satellite Control Squadron, 2nd Space Wing, Falcon Air Force Base, Colo.

"We monitor any of three different satellite systems," he said. "One system is classified, but the other two, the Defense Meteorological Satellite Program (DMSP) and the Global Positioning System (GPS) are used by the military worldwide." The DMSP is a group of weather satellites which transmit worldwide weather information to using military weather agencies, while the GPS is comprised of navigation satellites. The GPS sends navigation information to users such as bases, aircraft and ships.

In addition, Millstone says that a new satellite system, Milstar, will be entering the Air Force inventory in the next year or so. This system is designed to provide secured communications for government agencies which need to communicate with each other.

Depending on the different space systems, space systems operations specialists perform varying jobs. "Here I communicate with, or command, the satellites," Millstone explained. "Somewhere else, I could be in charge of receiving its telemetry (data) and analyzing it.

"Commanding these satellites involves communicating with them via computer," Millstone explained. "For example, we monitor the satellite's health by sending it a signal commanding it to send us information about all of its subsystems. By analyzing the information it sends us, we can tell if adjustments to the subsystems, such as the electrical, propulsion and telemetry systems and the receivers and transmitters, need to be made."

> Training includes learning basic orbital mechanics and general information about the satellites.

Besides communicating with the satellite and monitoring its health, Millstone uses the information sent by the satellites to monitor ground equipment. "We don't get involved in hands-on maintenance of the big main-frame computers and antennas, but from the data transmitted, we can tell the maintenance people what might be wrong."

Training to enter this career field starts with six weeks at Lowry Air Force Base, Denver, Colo. The school covers the fundamentals, including basic orbital mechanics, and general information about the satellites, such as how they're launched; how to maintain their orbit; and how they operate.

Students then obtain system-specific knowledge on one of the three satellite systems at the 1013th Combat Crew Training Squadron at Peterson Air Force Base, Colorado Springs, Colo. "Students learn about 80 percent of their knowledge of the system they'll be assigned to at the school," Millstone said. "In about two months, they learn about the main-frame computers and ground antennas, as well as more about the specific satellite systems."

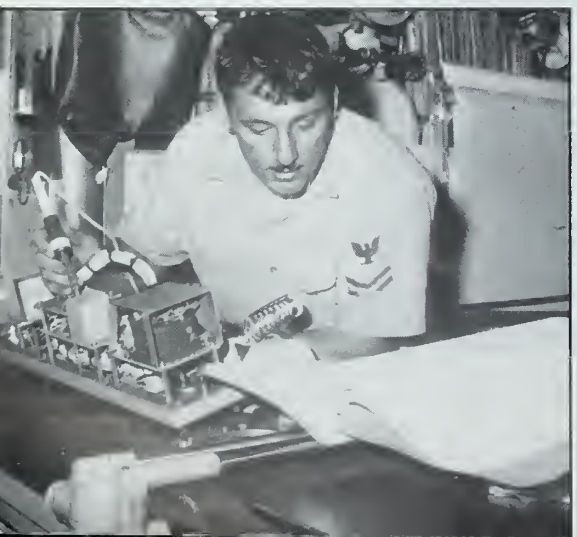
Although space-related career fields are becoming more popular in the Air Force, space systems operations specialists won't have many opportunities to travel for the next few years. "Right now, assignments are limited to about six places in the United States and one overseas," Millstone said, "but more assignments will open up as the U.S. Space Command, Air Force Space Command and this career field expand."

Meanwhile, Millstone and his fellow space systems operations specialists maintain a constant vigil on the satellites in space. "Satellites never sleep," Millstone concluded. "We must always be ready to receive and analyze the information they send us and transmit it to the people who need it." ⬠

Tech Sgt. Mike Millstone monitors ground equipment on his computer screen.

Pride Runs

Story and photos by PA1 Rick Woods



(Above) Sonar technicians rely on their instruments as the eyes and ears of the submarine when it's running deep. (Below) McGinn repairs electronic equipment when he isn't navigating.

Navy submarine crews require one task for full membership. Each crewman must earn his "dolphins." Until the cook, communications technician, or commander has learned the submarine's systems and structure inside and out, top to bottom and front to back, regardless of other technical or professional achievement, he's still untested, an outsider.

The crewman who has reached that milestone wears a simple decoration on his uniform. It's a silver or gold pin that shows a pair of dolphins riding cresting waves flanking a surfacing submarine. That small symbol means much more than just membership in a club. When the ship's review board says a crewmember may wear the dolphin on his shirt it means, "This man knows what to do in most emergencies in this submarine. He can set up any compartment for emergency repairs and he knows what to do in a variety of situations. This man can save our lives. This man can save the ship."

Sonar Technician (Submarine) 3rd Class Mike Wall is ready to stand before the ship's review board and tell them, "I want to earn my dolphins. Test me now!" He knows the ship blindfolded. He can rattle off a non-stop list of each piece of equipment, cable and pipe, and what it does.

His ship is the 365-foot Navy fast attack submarine USS Glenard P. Lipscomb, a long underwater shadow waiting quietly at a Norfolk Naval Station, Va., submarine forces pier. Surface ships and cranes tower over the black rounded hull that barely clears the water's surface. The "sail," the stocky two-story fin sticking up from the sub's back, is one of the few features that breaks the graceful curves of the smooth, featureless black hull. The sub is built for speed and for stealth. It looks out of place reluctantly tied to a dock here in port. Look away and the crew of 129 men could make it disappear underwater.

"It isn't as small as it seems. I thought I would be claustrophobic, but I started learning the different systems and how they're all interconnected. I guess it sounds kind of strange but there's so much equipment that it doesn't seem so confined," Wall said.

Every cubic foot has a purpose. Most machines have a duplicate and as many spare parts for everything as possible are tucked into out-of-the-way spaces, Wall said.

The only thing there isn't room for is a thin skin. "Excuse me, pardon me.." are an integral part of the submarine crew's vocabulary.

Moving through the ship is almost a gymnastic exercise that requires turning and twisting, sidesteps over, under and around machines, supplies and each other. Yet underwater, the crew makes every little noise.

Wall said transient sounds can give the sub away. "Loose lids sink squids," is a saying all Navy crewmembers--'squids'-learn in submarine school. Sonar technicians act as the eyes and ears of the submarine. They can tell from the echo how far away and which direction a sound came from. Sounds travel three times as fast and for miles underwater. A slamming toilet lid sounds like

Deep

a rifle shot to sonar technicians on another submarine. A wrench dropped on a steel deck can be identified as easily as a ringing bell. Even though at least one third of the crew is alert at all times, the sub slips quietly away on its mission.

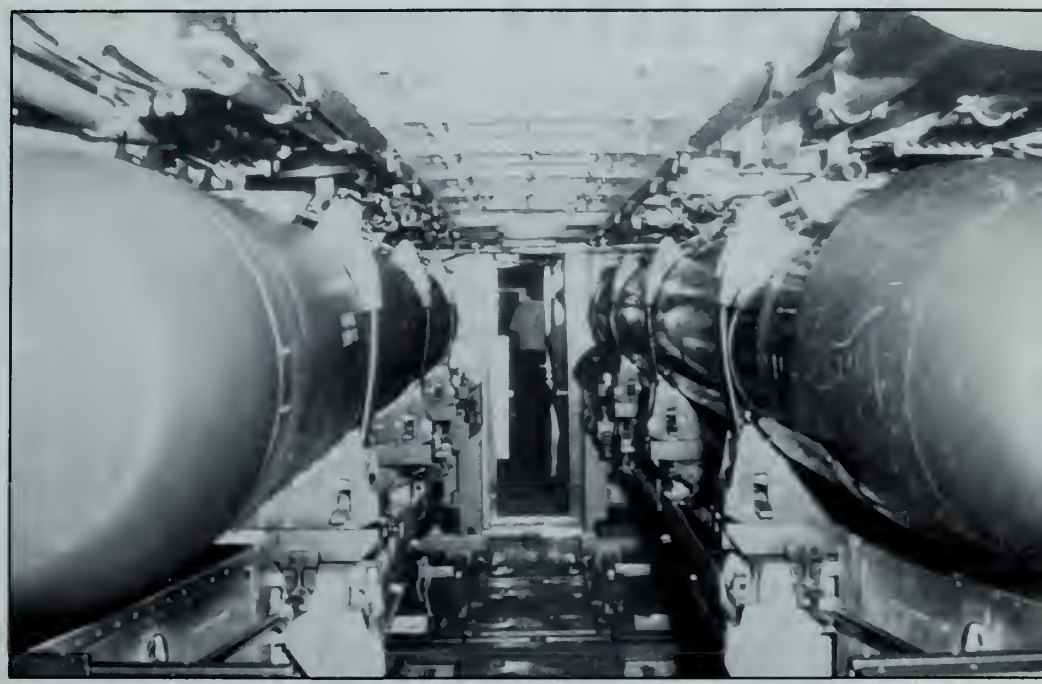
Three watch sections rotate through the day, six hours on and 12 off. The nuclear reactor is closly monitored every second, engines and turbines are constantly adjusted, systems are checked and tested. Air is cleaned and filtered, fresh water is made from seawater, carbon dioxide and smells are filtered out. Spare parts are counted, stores are checked, orders for replacements are readied for the next contact with a source of supply. The cooks serve a fresh meal every six hours around the clock.

Even when the crew is 'off duty' they're on call for repairs. "When something breaks, repair teams work till it's fixed," Wall said. "Training goes on every day during 'normal' hours from 7 a.m. to 4 p.m. We have fire drills and battle station practice any time of the day."

"Submarine service isn't your everyday part of the Navy. It's different from the surface or aviation part of the Navy, because we're even more interdependent," he said.

Wall is ready to try to qualify for his "dolphins". His shipmates say, "He can do it if anybody can." He looks back at how much he's learned to get to the point where he can claim the silver device for his own. "It's worth it. I'm really proud to be a member of this crew, and proud of how much I've learned especially when I start passing it on to another new crewman," he said. ⬠

Quartermaster 2nd Class Mike McGinn checks the sub's periscope depth. (Below) Torpedos are racked side by side.



Navy *Patternmaker*

One-Of-A-Kind Work

Patternmaker 2nd Class Farralito Montenegro builds up a wooden copy of a fan one piece at a time, adjusting his measurement to allow for shrinkage when the pattern is cast in metal.

Story and photos
By PA1 Rick Woods

"Patternmakers are the carpenters' carpenters," said Chief Patternmaker Steve Beigle. "They have a wide knowledge of woodworking tools and the characteristics of wood, and above all, patience," he said. They are the exacting craftsmen who cut and shape patterns used in the foundry to make new metal parts for Navy equipment.

Petty Officer 2nd Class Farrolito Montenegro said "Two and one half years ago I saw the job that patternmakers did. I was interested, so I requested the school."

Montenegro passed the Navy's 13-week Patternmaker's school in San Diego, Calif. There he learned drafting, mechanical drawing and layout skills in one section of the course. Hand and power tool safety and maintenance are at the heart of the course. Since his work is used by the moulders specialty, he also learned foundry and casting techniques in patternmaker school.

Montenegro is currently working on a replacement fan for an electric motor. Patternmakers usually work from a broken part or its blueprint. In this case he's working from the bent and broken original, measuring thicknesses and diameters and transferring those marks to a working drawing. The finished product will be an eight-inch aluminum casting that will be machined to fit a specific piece of

shipboard equipment.

It's not a simple measure-and-mark operation, though. Cast metal will shrink as it cools, and Montenegro has to make the pattern for the finished product slightly larger to allow for that effect. The patternmaker uses a special steel "shrink ruler" marked to translate between the finished and pattern sizes of the part.

Montenegro has finished the body of the fan. A clean, smooth replica in reddish-brown wood of the dirty, gray, shattered aluminum original lies on the workbench. He's built the replacement copy from carefully cut and sanded mahogany. The next step is to painstakingly cut out and shape the vanes from pieces of clear, knot-free kiln-dried wood, assemble the pattern, and apply a polyurethane coating to keep the pattern from sticking to the mold. This fan pattern will take a little more than three days to build.

"We use pine or mahogany for the pattern, depending on the details needed or how many times the pattern will be used. Pine is soft and easily shaped, but good only for one or two copies, or for detail work. Mahogany or oak is used for more durable pieces," said Beigle.

The patternmaker then takes the finished wood reproduction to the foundry. There, moulders pack the wood copy in sand, remove the pattern, put the sections of the mould back together and pour molten metal in the place of the pattern. Machinists will cut, grind, drill or polish surfaces of the piece.

There are four patternmakers at the Shore Intermediate Maintenance Activity (SIMA) at Naval Station Norfolk, Va. They also work aboard destroyer and submarine tender ships, and in other naval industrial centers such as SIMA.

Montenegro's work is to produce a one-of-a-kind wood model of a working piece of equipment. His work has to be right. The product of the patternmaker's trade rests on shelves in a corner of the foundry. The shelves are stocked with these wooden replicas, ready for another copy to be made.

Fan blades take shape as Montenegro sands each to the lines he translated from the original.

The hours of cutting and fitting invested in each pattern don't go to waste because each can be stored in the foundry pattern library.

Religious Specialists

Story and photos by SSgt. Linda Mitchell

The dictionary defines flexibility as the ability to easily adapt or adjust to change. Chaplain assistants are good examples of this definition; even the duty titles are flexible.

Army chaplain assistants work with battalion chaplains. Air Force chaplains have chapel managers to help them, and Navy religious program (RP) specialists work for Navy and Marine Corps chaplains.

Master Sgt. Myra Wolcott, a chapel manager and chief of chapel management, 436th Military Airlift Wing Chapel Services, Dover Air Force Base, Del., explained a part of this flexibility. "Whatever the duty title is, the job is the same. We make sure all chapel activities run smoothly and efficiently."

Administrative duties include typing, filing, and most importantly, screening visitors to the chapel. "We are the first people our visitors see," said Army Staff Sgt. Tim Martin, a chaplain assistant and noncommissioned officer in charge of Chapel Services, 7th Infantry Division (Light), Fort Ord, Calif. "We determine if the individuals need to see the chaplain or if another organization on post, such as the American Red Cross or Army Community Services, can better help them. If someone has an immediate, pressing need to see a chaplain, and none are available, we are also trained in crisis intervention and stress management. While we don't counsel people about their problem, this enables us to calm them down enough to talk to us."

"There are many times," said Spc. David Kelley, a battalion chaplain assistant at Fort Ord, "when they specifically ask to speak to me. I know these people; I can relate to their situations because I work with them everyday in the battalion and go with them to the field."

Aside from the day-to-day administrative duties, the assistants' ability to adapt includes working with chaplains from many religious denominations. Kelley, who is protestant, is assigned to a Greek Orthodox chaplain. Martin (also protestant) and Wolcott (Roman Catholic) have assisted chaplains from a wide variety of faiths, including Roman Catholic, Methodist, Baptist, Episcopalian and Jewish. "I hadn't been exposed to the other religions before," Wolcott said. "However, I've since learned a lot about different ceremonies, traditions and holidays, and the wide variety of equipment needed by the chaplains." This support includes learning how to properly display and store religious articles such as crosses, Stars of David, Bibles, and the Torah.

Logistical support provided by chaplain assistants includes providing space and material support to chapel functions, such as men, women and youth groups. Navy RPs stretch this logistical support to other areas when assigned to ships. "Aside from our chapel duties, we must meet shipboard priorities," said Chief Petty Officer Rich Palmer, a religious program specialist in Chapel Services, Norfolk Naval Base, Va. "The ship is our second home, thus we do our share of painting, cleaning, kitchen details, and damage control. Additionally, we operate the ship's library, including signing out and checking in books, maintaining the card catalogues and properly shelving books."

Flexibility often takes the chaplain assistants out on ships or out to the field. "We have portable altars and kits to bring with us when the battalions move out," Martin said. "We often use tents, but we have also learned to use the hood of a jeep or a flat rock, with soldiers sitting on the ground in the open air."

One thing that must be realized when talking about the adaptability of religious specialists is that they could see combat, if the time comes, whether aboard a ship or in the field. They do everything that every soldier, Marine, sailor or airman does in the field, including establishing and providing security for the camp, learning map and compass reading, and performing reconnaissance maneuvers. Kelley explained, "Under provisions of the Geneva Convention, chaplains aren't allowed to bear arms, so we make sure they get where they're supposed to safely."

In addition to combat-related training, students learn religious duties at service-sponsored schools. Navy religious program specialists attend an eight-week "A" school at Naval Air Station, Meridian, Miss. Keesler Air Force

Base, Miss., is the site for the six-week chapel management program, and soldiers attend an eight-week chaplain assistant school at Fort Monmouth, N.J. The schools teach courses in administration, common tasks like setting up altars in the chapels or in the field, accounting procedures for handling chapel offerings and other funds, and basic counseling techniques. The schools, however, do not teach, or preach, religion.

"**Having** a religious affiliation is not a necessity to get into this career field, but it helps," Kelley explained. "If you don't have a belief, how can you talk to someone who is searching for something to believe in? If you have few or no good moral values, for example, if you have an alcohol problem, how can you help someone who is trying to rehabilitate himself?

"Flexibility means adapting ourselves to every situation--that includes helping our chaplains help others," Kelley concluded. ⬠

Staff Sgt. Dave Lilly, a chapel manager at Dover Air Force Base, Del., prepares an altar for worship services.

NAVY MECHANICS

Story and photos by PA1 Rick Woods

Since the first engines chugged to life in the bilges of Navy boats, enginemen have been on hand to keep them running.

Over the years the Enginemen (EN) rating has become considerably more complicated. Now the EN may be found anywhere from the engine room of a Navy destroyer, or the auxiliary systems maintenance crew on an aircraft carrier, to a small engine repair shop at a Navy base. All the jobs have one aspect in common: the EN is the Navy's basic all-around mechanic.

A Navy fireman or fireman apprentice reporting to Engineman 'A' School at Naval Training Center Great Lakes, Ill., will have up to 12 weeks to gather the skills basic to that rating. EN school is a self-paced course that starts teaching hand tools--wrenches, hammers, pliers, torque wrenches, micrometers and other precision measurement tools--and special tools needed just to work on diesel engines.

The 671 diesel engine, the basic diesel engine found everywhere in Navy equipment, sits squarely at the heart of the EN training program. Students will learn all the parts and principles that make it, or any other kind of diesel engine run.

According to Chief Petty Officer James Cooper, a Norfolk Naval Base, Va., career counselor, the EN fresh from school will probably report to a ship for duty. He or she will usually become a member of the 'A' gang, who maintains all the mechanical equipment outside of the engine room, such as blowers, fans, pumps, small boat motors, auxiliary generators, hydraulic equipment, air conditioning and refrigeration and more.

On shore, ENs are found in maintenance shops such as the one at the Shore Intermediate Maintenance Activity for Norfolk Naval Base. In the diesel shop there, Chief Engineman Mike Lopez and his staff of six petty officers overhaul engines. Half a dozen diesels in as many stages of rebuilding, and various pumps, transmissions and other machines

(Top left) Enginemen 2nd Class LaRea Cruikshank and Jack Lizotte install crankshaft bearings; (above) Chief Engineman Mike Lopez and Lizotte insert new cylinder liners; and (below) Lizotte and Cruikshank tighten cylinder head bolts to the proper torque.

are scattered over the floor and workbenches in orderly confusion, usually waiting for parts to arrive.

Lopez is trying to keep clean. A blue shop apron covers his khaki uniform. He doesn't care much for the meeting he's waiting for, sighs when he talks about the paperwork that's a necessary part of the shop, and would much rather get his hands dirty than anything else. He's only slightly greasy to the elbows because he's "just helping out" today.

"We work on a lot of different equipment here," Lopez said. "When ships request small boat engine inspections we assist by identifying discrepancies, and removing or installing the engines if needed. Most of the rest of our work is engine overhauls."

Engineman 2nd Class LaRea Cruikshank said, "Today is my anniversary. I've been in the Navy six years today, and there's nothing I'd rather do than what I'm doing now." She's up to her elbows in the innards of a motor lifeboat diesel engine, rebuilding it from the crankshaft out.

"Air conditioning and refrigeration are probably my favorite parts of this rate, but right now I'm enjoying this," Cruikshank said. "Between this and night school, I'll KNOW diesel engines," she said. She's attending technical school for even more diesel mechanic training than what she's learned from the Navy. She's deftly twisting bolts into an engine block fresh from the cleaning tank even though this is the first engine she's rebuilt here.

Working along with Cruikshank, giving her assembly tips and coordinating the rebuilding process is Engineman 2nd Class Jack Lizotte. "I've been working on engines since I was 10, mostly gas engines, but the Navy has taught me a lot about diesels," he said. "I get a lot of satisfaction out of putting an engine back together and then seeing it run right."

Cruikshank and Lizotte plan to have this engine running within three days. ⬠

There has been a navigational light at Cape May Point since 1744. The current lighthouse was built in 1859 and is believed to be the oldest lighthouse still commissioned by the U.S. Coast Guard as a navigational aid.

Cape May, New Jersey

Story and photo by PA1 Rick Woods

Golden afternoon light streams in through the dusty attic window. Dust motes swirl in the bar of light as the lid of an old trunk falls back against the forgotten boxes of memories from years past.

There, among the yellowed letters and crumbling newsprint clippings saved to jog the memory of the curious, is a postcard. It's stained by past fingers passing it from hand to hand, wrinkled and dog-eared from countless turnings. Lips soundlessly speak again the words now barely readable in ink faded to peacock colors by the years.

Dear Anne,

We're having such a wonderful time here, the long ride down from Philadelphia seems worth it. The sun is warm and the breeze from the bay is so pleasant I wish this summer would never end. John has caught all the fish of all sorts we could possibly want. The children are off somewhere with the friends they have found. I could read a book, but the town of Cape May is too lovely and the people too friendly to stay long indoors. Wish you were here in Cape May.

The faded picture in black and white is a window into a time of carriages and summer houses, lemonade on the porch and strolls along the sand. Victorian homes spaced on orderly streets recall an age a lifetime ago.

Those Victorian homes still stand in Cape May, N.J. A drive along those neatly kept streets echoes a life and time that is somehow still so real that visitors find themselves asking, "Where are the carriages and cobblestones? Everything else is here."

Today the town of Cape May is a national historical landmark, yet all the modern amenities have been rebuilt into a town that still carries the authentic stamp of life a hundred years ago.

Lace curtains shade tall windows in scallop-shingled walls. White wooden fretwork adorns high peaked gables and turrets in classic rambling homes all differently stamped with the personality of the builder. The only exceptions are the homes of seven sisters who built seven homes like seven reflections from one mirror.

The fish John caught came from the waters mixing at the mouth of the Delaware Bay and the Atlantic Ocean. Sealife abounds here where the sound and the sea meet. Marshes, mudflats and sand dunes form the shore of the peninsula first settled three hundred years ago by New England whalers, descendants of the Mayflower colonists.

The natural advantage of the Jersey Cape that juts out 25 miles keeps Cape May warmer in winter and cooler in summer than shore areas of Delaware and Pennsylvania. The 75-mile coastline to both east and west offers access to saltwater fishing for at least 30 species from mid-March well into November.

Water sport enthusiasts and other visitors from across the United States invade Cape May every summer. Others, including military members and families in the area enjoy Cape May year 'round. People stationed at Maguire Air Force Base, Fort Dix and the Coast Guard Recruit Training Center take advantage of the off-season to enjoy quiet walks on the beach and strolls through the town.

Wildlife are well-protected and valued in New Jersey, and will remain a national resource carefully tended and preserved in many local sanctuaries. Cape May Point State Park is known as one of the more popular sites for bird-watching in North America. It's the home of many species and a natural route on the Atlantic flyway for migrating birds.

In spring the white and pink of dogwood flowers are splashed across the vivid green of pines, hollies and laurels. Cape May scenery mixes with bits of history and the future here on the Jersey Shore, in a timeless place to come and relax.

High atop a practice pole, an Army wire systems installer straps himself with a safety harness to the pole.

Telephone Service

Story and photos
by SFC Karen Polston

"When units go to the field for training or during an exercise, they still need communications. Wire systems installers provide the necessary telephone lines, cables and equipment for this important link-up with the rest of the world," explained PFC Ozetta Dicus, a wire systems installer student at Fort Gordon, Ga.

"Wire systems installers can hook up tactical, dial and touch-tone telephones and provide hookups for teletypewriters and computers," she said.

"To do this, we may have to run telephone lines on and under the ground and over, under and through obstacles. We also erect telephone poles and attach the lines to the poles," she said.

"That's where this job gets interesting. Anyone who has an overwhelming fear of heights may have a hard time getting to the top of some of those poles," Dicus said. Pole heights are 30, 45 and 90 feet.

"I was scared silly when I tried it the first time. But the instructors are excellent and they gave me the confidence I needed. If a student learns and follows the correct climbing techniques, using the proper safety precautions, while listening to their instructor, climbing the poles becomes second nature. We spend a great deal of time in the 'pole orchard,' (a plot of land covered with poles waiting to be climbed) perfecting climbing skills and overcoming our fears."

Wire systems installers learn their job skills during an eight-week course at Fort Gordon.

"We're taught to install, maintain and replace wire and telephone cable. After the lines are in place, we test and troubleshoot the system to ensure it's working properly," explained Pvt. Lawrence Bojorquez, another student.

Students also learn how to install in-line repeaters so signals can travel long distances. Additionally, they're taught to install junction boxes where the wires inside the cable are split out and hooked up to run in different directions.

"At the end of training, we spend five days and four nights on a field training exercise, actually doing what we've been taught during the course. It's exciting when it all comes together and a phone line is operational," Bojorquez explained.

"Providing a working communication connection is what it's all about," Dicus concluded. "When we do our job, those soldiers in the field are able to do theirs."⬠

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Life on a Sub -- page 12

Nothing can stop the man with the right mental attitude from achieving his goal; nothing on earth can help the man with the wrong mental attitude.

Thomas Jefferson